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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,881	02/08/2002	Fumio Hosokawa	116-020155	8707

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EXAMINER

FERNANDEZ, KALIMAH

ART UNIT PAPER NUMBER

2881

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,881

Applicant(s)

HOSOKAWA ET AL.

Examiner

Kalimah Fernandez

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 03 May 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 02/09/2001. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 6,369,932 issued to Gerchberg and in view of US Pat No 4,935,625 issued to Hasegawa et al.

4. Gerchberg teaches a lens system for use in a transmission electron microscope (col.4, lines 56-66).

5. Gerchberg teaches said transmission electron microscope having an objective lens (210) (col.5, lines 45-50).

6. Gerchberg teaches a phase plate (230) (col.6, lines 1-5).
7. Gerchberg teaches the use of a series of lenses for imaging the back focal plane unto one another (col.8, lines 44-56; col.9, lines 9-21). That is, each lens in a series focuses the back-focal plane according to its phase distribution unto next lens in series to result in reconstructed object phase.
8. In addition, Gerchberg teaches maintaining conjugate planes by the use of said lenses (col.4, line 52- col.5, line 9).
9. Furthermore, Gerchberg teaches positioning a series of 6 different lenses successively in the BFP (220)(col.8, lines 46-49; col.9,lines 11-15;col.9, lines 24-30).
10. Gerchberg does not explicitly teach said phase plate located beyond the back-focal plane of the objective lens; however, the teachings of placing a series of lenses (or phase plate) in the back focal plane would obviously assume that at least one of said lenses (or phase plate) of the series will be placed just beyond the back focal plane.
11. In addition, Hasegawa et al teaches the ability to place a phase plate in any location with an electron optical apparatus (col.7, lines 13-37).
12. It would have been obvious to ordinary artisan at the time this invention was made to modify Gerchberg to include in a series of lenses in

the back focal plane a phase filter/plate since Gerchberg teaches said lenses and said phase plate are interchangeable (col.5, line 64-col.6, line 5).

13. Further, the teachings of Hasegawa et al teaches the ability to place a phase plate in any location in an electron optical apparatus, which enables high precision and at high speed measurement (col.2, lines 5-10).

14. As per claims 2-4, Gerchberg teaches alignment coils are placed on both sides of said phase plate (80) (or electron biprism) (col.6, lines 25-61). In addition, the recitation of additional alignment coil amounts to mere duplication of the essential working parts of a device and involves only routine skill in the art.

Conclusion

15. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Pat No 5,426,521 issued to Chen et al; US Pat No 4,953,188 issued to Siegel et al; US Pat 3,908,124 issued to Rose; US Pat No 3,596,090 issued to Hoppe; US Pat No 4,998,788 issued to Osakabe et al; US Pat No 5,439,767 issued to

Yamashita et al; US Pat No 5,654,547 issued to Coene et al; US Pat No 5,134,288 issued to Van Dijck; US Pat No 3,569,698 issued to Herrman; US Pat No 3,869,611 issued to Thon; US Pat No 5,753,913 issued to Coene et al; US Pat No 5,221,844 issued to Van der Mast et al; US Pat No 3,500,043 issued to Hanssen; US Pat No 5,004,918 issued to Tsuno et al; US Pat No 5,814,815 issued to Matsumoto et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 703-305-6310. The examiner can normally be reached on Mon-Thus between 8:30am-6:30pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on 703-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

kf
July 11, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800